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Job Turnover and Labour Market Adjustment in Ontario from 1978 to 1993

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No. 106

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Abstract

This paper documents job turnover and labour market adjustment activities in the Ontario economy from 1978 to 1993. The following highlights the major findings.

Both the permanent layoff rate and the total permanent separation rate vary substantially from one industry to another. In 1992, the permanent layoff and total permanent separation rates ranged from 27.3% and 34.2% in construction to only 1.4% and 9.3% in public services, respectively.

The permanent layoff rate and the total permanent separation rate also differ noticeably by gender, age and firm size --- in most industries, the rates are higher among male workers than among females, higher among younger workers, and higher among smaller employers.

While the permanent layoff rate increases during business cycle downturns and decreases during business cycle upswings, the reverse trend is observed with the total permanent separation rate. This is because the quit rate and the other permanent separation rate both decline during downturns and rise during upswings, more than offsetting the opposite trend associated with the permanent layoff rate.

These univariate-tabulation findings are confirmed in the multi-variate logistic regression results on the statistical determinants of permanent layoffs and total permanent separations --- in most industries, after controlling for gender, age, firm size and time periods, the estimated likelihood of permanent layoffs is lower among female workers, decreases significantly with age and firm size, increases during recessions and decreases during recovery and expansion in most industries. The patterns of estimated incidence of total permanent separations are very similar to those of permanent layoffs except that total permanent separations decline during business cycle downturns and climb during business cycle upswings.

Permanently separated workers have had a much more difficult time in finding employment during the most recent recession than any other time in the past 15 years. Almost 40% of those who lost or left a job in 1989 did not have a job in 1993. This is in marked contrast with the experience of the early 1980s, when 29% of permanently separated workers were jobless 3 years after the separation. A very similar trend is found when the analysis is applied to labour market transitions among permanently laid-off workers.

There is a great deal of out-of-province migration among permanently separated workers who did find a job. Nearly 45% of those who lost or left a job in 1989 and found a job in 1993 were employed outside of Ontario. An identical proportion of permanently laid-off workers is found to be employed in other provinces.

There is tremendous inter-industrial mobility among permanently separated workers who found employment in Ontario. Less than 44% of those separated from a job in 1989 and found employment in 1993 in Ontario have remained in the same industry. Inter-industrial mobility is even greater among permanently separated workers in 1989 who did find employment in 1993 in other provinces --- only 38% stayed in the same industry. Very similar inter-industrial mobility patterns are observed among permanently laid-off workers who found a job in Ontario as well as outside of Ontario.

Key Words: Job Turnover, Labour Market Adjustments, Permanent Layoffs, Total Permanent Separations

I. Introduction

This paper documents job turnover and labour market adjustment activities in the Ontario economy from 1978 to 1993. The data are extracted from the Longitudinal Worker File (LWF) created and managed by the Business and Labour Market Analysis (BLMA) Division of Statistics Canada. The LWF is constructed using data on job separations from the Record of Employment (ROE) of Human Resources Development Canada, data on all workers from the T4 file of Revenue Canada, and data on the characteristics of employers from the Longitudinal Employment Analysis Program (LEAP) file of BLMA of Statistics Canada.

The LWF is a 10% random sample of all Canadian workers, created on a person-job basis, where there is one record for each person working in a firm during each year. For example, there would be one record if a person was employed by only one firm in a year, two records if the person was employed by two different firms in a year, and so on. Each record contains information on the number of permanent layoffs and the number of total permanent separations in a year, personal characteristics such as age and gender, as well as certain characteristics of the firm in which the worker is employed, such as province, size and industry. The record is longitudinally linked from 1978 to 1993.

In the LWF, separations are aggregated into three major categories (quits, layoffs and separations for other reasons) according to the reason for separation indicated in the ROE. A separation is classified as a layoff if the separation occurs due to shortage of work, and a separation is defined as permanent if the separated worker does not return to the same employer in the same or next year after the separation and as temporary otherwise. For more details on the construction of the LWF and on definitions of types of job separations, see Statistics Canada (1992): Worker Turnover in the Canadian Economy: Separations and Hirings, 1978-1989, Catalogue 71-539.

The paper consists of three main sections: i) patterns in permanent layoff rates and total permanent separation rates by major industrial sectors; ii) probabilities of permanent layoffs and total permanent separations by major industrial sectors; and iii) labour market transitions for separated workers in selected years. Major industrial breakdowns are provided in Table A1 in the appendix.

II. Patterns in Permanent Layoff Rates and Total Permanent Separation Rates

This section reports patterns in permanent layoff rates and total permanent separation rates for Ontario from 1978 to 1992, for the province as a whole as well as for each major industrial sector. Estimates are obtained for all workers from the LWF full sample, weighted by a factor specific to each year. Annual estimates are calculated along with averages for different time-periods, largely corresponding to different phases of the business cycle (1978-1981, 1982-1983, 1984-1986, 1987-1988, 1989-1992).

Permanent Layoff Rate

In 1992, the permanent layoff rate (defined as the number of persons permanently laid off from the job divided by the total number of person-jobs in the year) was 5.5% for the whole province (excluding agriculture) and varied substantially across industrial sectors, ranging from the high of 27.3% for construction and 13.7% for primary to the low of 1.9% for health, education and welfare and 1.4% for public services (see Table A2).

The permanent layoff rate increases during recessions and decreases during recovery and expansion. The average rate was 5.0% during the 1978-1981 business cycle peak, rose to 6.0% during the 1982-1983 recession, dropped to 4.8% during the 1984-1986 recovery and further dropped to 4.0% during the 1987-1988 expansion, but rose again to 5.0% since 1989 (see Table A2).

As shown in Figure 1, the permanent layoff rate among male workers has consistently been about 3 percentage points higher than among female workers in every year since 1978. In 1978, it was 6.8% for male workers but only 3.8% for female workers. By 1992, it was 7.2% among male workers but just 3.6% among female workers.

Figure 1
Permanent Layoff Rate by Sex in Ontario, 1978-1992

Figure 2
**Permanent Layoff Rate by Age in Ontario, 1978-1992**
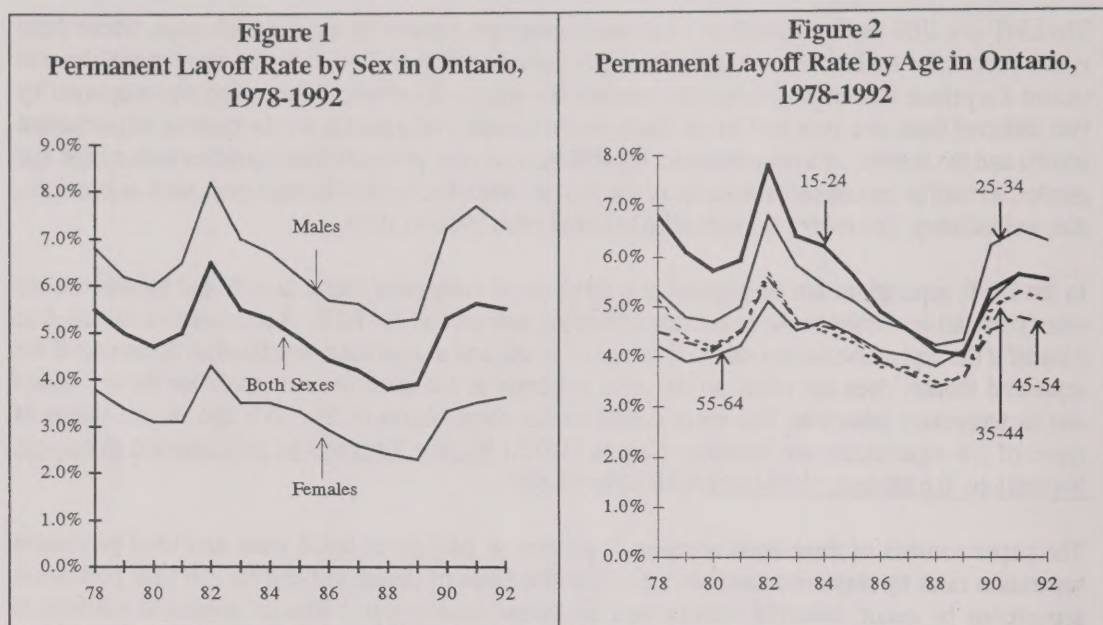
The permanent layoff rate decreases substantially with age. In 1978, it was at the high of 6.8% among workers under 24 years of age, gradually decreased among older workers, and reached the low of 4.2% among workers 55 to 64 years of age. Over the period, this pattern changed appreciably. By 1992, workers 25 to 34 years of age experienced the highest permanent layoff rate of 6.3% and workers 45 to 54 years of age the lowest of 4.6%. The permanent layoff rate was 5.5% among both the youngest and oldest workers (see Figure 2).[1]

The permanent layoff rate consistently decreases with firm size. In 1978, it ranged from 9.8% among employers with under 20 workers to just 2.8% among those with 500 or more workers. This pattern held over the period. By 1992, it was 9.5% among the smallest firms and only 2.5% among the biggest ones (see Figure 3).

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[1] Workers over 65 years of age are included in the calculation of the all-age rate. However, rate estimates for this group of workers alone may not be reliable due to the small number and hence are not reported separately in Figure 2 and Table A2.

Figure 3
Permanent Layoff Rate by Firm Size in Ontario,
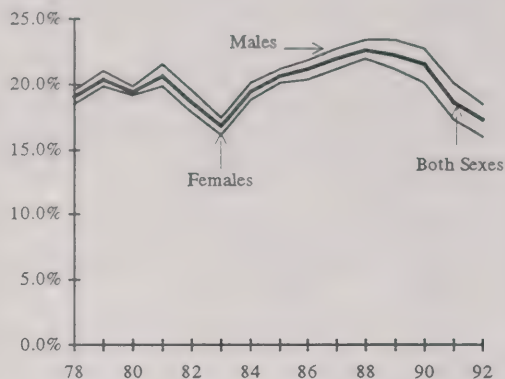**1978-1992**
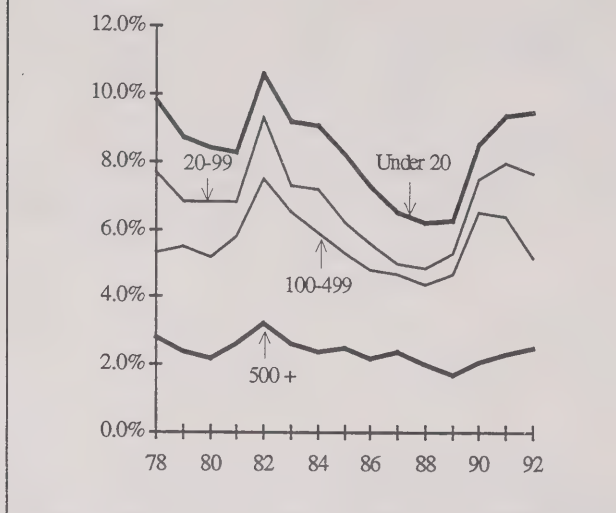
Total Permanent Separation Rate

The total permanent separation rate (defined as the number of persons permanently separated from the job divided by the total number of person-jobs in the year) also varies noticeably across industrial sectors. In 1992, it was 17.3% for the province as a whole (excluding agriculture) and ranged from the high of 34.2% for construction and 21.9% for primary, to the low of 10.4% for health, education and welfare and 9.3% for public services (see Table A3).

Unlike the permanent layoff rate, the total permanent separation rate decreases during periods of slow economic activity and increases during periods of economic upswings. The average total permanent separation rate was 19.9% between 1978 and 1981, down to 17.8% between 1982 and 1983, up again to 20.4% between 1984 and 1986, and up further to 22.3% between 1987 and 1988, but down again to 20.1% since 1989 (see Table A6). This is because quit and other permanent separation rates decrease during recessions and increase during recovery and expansion, more than offsetting the ups and downs of the permanent layoff rate during different phases of the business cycle.

Unlike the permanent layoff rate, the gender difference in the total permanent separation rate is rather small. In 1978, the rate was 19.6% for males and 18.5% for females. This gap widened slightly through the period. By 1992, the male-female rate difference was 2.5 percentage points (Figure 4).

Figure 4
Permanent Separation Rate by Sex in Ontario, 1978-1992

Figure 5
Permanent Separation Rate by Age in Ontario, 1978-1992
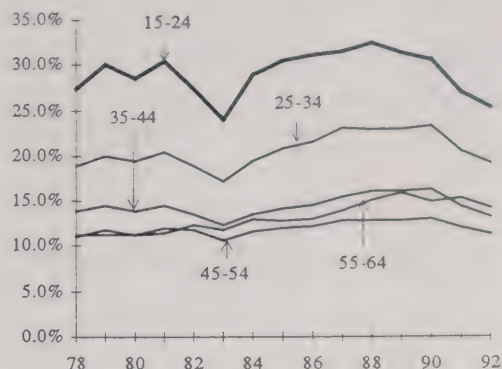
Like the permanent layoff rate, the total permanent separation rate also declines with age. In 1978, the rate was at the high of 27.4% among workers under 24 years of age, and the low of just 11.2% among workers 55 to 64 years of age. Over the period, this pattern changed very little. By 1992, the rate was 25.2% for those under 24 and 14.1% for those 55 to 64 years of age (see Figure 5 --- as in the case of the permanent layoff rate, separate total permanent separation rate is not reported for those over 65 years of age but they are included in the calculation of all-age rate).

In 1978, the total permanent separation rate was very similar among firms with under 500 employees (around 21% to 24.5%) but substantially lower among firms with over 500 employees (14.5%). This pattern hardly changed in the period. By 1992, the rate was around 21% for smaller employers and 12.3% for the biggest ones (see Figure 6).

Figure 6
Permanent Separation Rate by Firm Size in Ontario, 78-92

III. Probabilities of Permanent Layoffs and Total Permanent Separations

The statistical determinants of permanent layoffs and total permanent separations in the Ontario economy from 1978 to 1992 are reported in this section. Estimates of the probability of a permanent layoff or a permanent separation for the control case are offered.

Let X_{it} denote a vector of explanatory variables, β is a vector of parameters to be estimated, and define $Y_{it} = 1$ if worker i in year t is permanently laid off (permanently separated) from the job, and $Y_{it} = 0$ otherwise. In the logistic model, the probability of permanent layoffs (total permanent separations) is given by:

(1) $Pr(Y_{it} = 1) = 1/[1 + exp(-\beta X_{it})]$.

The model of estimation is written as the transformation:

(2) $Ln\{Pr(Y_{it} = 1)/[1 - Pr(Y_{it} = 1)]\} = \beta X_{it}$.

The final sample used for estimation is a 0.3% sample of all Ontario workers excluding those employed in agriculture from 1978 to 1992 inclusive, randomly drawn from the person-job file of the LWF, totalling 266,174 observations for all industries. Explanatory variables include dummy variables on workers' gender, age, firm size, time period and major industrial sectors.[2]

The model is first estimated on the sample for all industries. By including in industrial dummy variables as regressors, the model allows the intercept to vary but imposes the same coefficients for all other explanatory variables across different industries. The imposition of identical coefficients is then relaxed and the model is estimated on the sub-samples for each industry. This allows both the intercept and the coefficients to vary from one industry to another. The estimated probability of permanent layoff and of total permanent separations for the control case are shown in Tables 1 and 2, while the logistic regressions results are reported in Tables A18 and A19 in the appendix.

The Probability of Permanent Layoffs

Permanent layoffs are less likely among female workers than among their male counterparts. This is true across all industries without any exception, although the estimated probability does vary from one industry to another, other things being equal.

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[2] The only information available in the LWF for a proxy of workers' level of skills would be the current or previous year's earnings. Unfortunately, this information is not appropriate for controlling skill levels for two reasons. First, current year earnings for workers with separations are truncated at the time of separation but the exact timing of separation cannot be determined in the LWF. If the separation takes place early in the year, a relative low level of earnings can be observed even for workers of high skills and if the separation happens late in the year, a relative high level of earnings can be observed even for workers of low skills. In other words, current year earnings are determined by not only skill levels but also the timing of separation. Second, previous year earnings for workers who started the job sometime in the year are truncated by the time of job start but the timing of job start cannot be determined in the LWF either. By the same argument, previous year earnings are influenced by not only skill levels but also the timing of job start and hence not an appropriate proxy for skill levels. The argument for job-start timing also applies to current year earnings for those workers whose jobs do not start on January 1 of the year but sometime later.

The incidence of permanent layoffs varies substantially among different age groups within each industry as well as across different industries. After controlling for gender, firm size and different phases of the business cycle, the estimated probability decreases with age for most industries. The noticeable exception is the construction sector in which the probability increases with age, and the primary sector in which the probability declines with age but rises again for workers over 55.

There is generally a strong negative relationship between the use of permanent layoffs as a means of workforce reduction and firm size. The estimated probability decreases with firm size in every industry except construction where it increases with size of employers, other things being equal.

Finally, the estimated likelihood of permanent layoffs increases during cyclical downturns and decreases during cyclical upswings for every industry except the primary sector wherein it continued to rise during the 1984-1986 recovery. These findings generally confirm the simple-tabulation results outlined in Section I.

The Probability of Total Permanent Separations

The patterns of estimated probability of total permanent separations are also similar to those noted in Section I. After controlling for gender, age, firm size and different phases of the business cycle, the following main observations emerge from the empirical results: i) the incidence of total permanent separations is slightly lower among male workers than among their female counterparts in most industries except primary, construction, and business and financial services; ii) the likelihood of total permanent separations generally decreases with age; iii) the incidence of total permanent separations is lower among small and large (500+) employers than among medium-size and big firms (100-499) for all industries except in primary where small firms, and in construction where large firms, are observed with the highest probability of total permanent separations; iv) the incidence of total permanent separations fluctuates substantially across different phases of the business cycle in every industry --- i.e., decreasing during recessions and increasing during recovery and expansions.

Table 1
Estimated Reference-Case Probability of Permanent Layoffs by Industry in Ontario, 1978-1992 (%)

	Full Model (1)	Primary (2)	Construction (3)	Manufacturing (4)	Distributive Services (5)	Business & Financial Services (6)	Consumer Services (7)	Health, Education, Welfare (8)	Public Services (9)
Gender:									
Male	7.3	19.5	17.2	10.1	6.5	5.6	5.7	3.1	12.1
Female	6.1	16.8	9.4	9.9	6.2	4.1	4.2	2.8	11.9
Age:									
15-24	7.3	19.5	17.2	10.1	6.5	5.6	5.7	3.1	12.1
25-34	7.3	14.8	18.6	8.4	6.1	4.7	7.9	1.5	7.4
35-44	6.4	12.6	18.9	6.0	5.2	4.8	6.5	1.2	3.4
45-54	7.0	11.7	21.7	6.9	4.7	4.4	7.4	1.0	2.9
55+	6.6	16.5	20.5	6.4	4.8	4.4	6.0	1.7	3.7
Firm Size:									
1-19	7.3	19.5	17.2	10.1	6.5	5.6	5.7	3.1	12.1
20-99	6.8	16.7	21.8	7.6	5.0	4.5	3.5	2.3	13.2
100-499	5.8	7.2	25.9	5.6	3.6	4.1	3.1	1.7	8.1
500+	3.5	5.3	28.8	3.8	2.1	2.0	2.3	2.0	3.4
Year:									
78-81	7.3	19.5	17.2	10.1	6.5	5.6	5.7	3.1	12.1
82-83	9.1	24.7	20.5	13.0	10.0	8.5	6.7	2.3	10.2
84-86	7.6	26.9	17.7	10.1	8.4	6.0	5.7	3.2	9.0
87-89	6.2	19.7	15.5	9.0	6.3	5.2	4.3	2.4	6.4
90-92	9.2	28.6	21.5	15.0	9.6	8.7	5.7	4.3	8.6
Industry:									
Manufacturing	7.3								
Primary	13.0								
Construction	24.7								
Distserv	6.0								
Busserv	4.8								
Consserv	4.9								
HEW	1.9								
Publicserv	3.7								

Note: The reference case is Male, Age 15-24, Firm Size 1-19, Year 78-81 and Manufacturing. Probability for each category is calculated by holding other categories constant (i.e., at the reference case).

Table 2
**Estimated Reference-Case Probability of Total Permanent Separations
by Industry in Ontario, 1978-1992 (%)**

	Full Model	Primary	Construction	Manufacturing	Distributive Services	Business & Financial Services	Consumer Services	Health, Education, Welfare	Public Services
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gender:									
Male	25.7	42.6	32.2	35.4	29.1	26.0	21.4	22.3	31.0
Female	26.3	38.1	23.1	38.1	29.5	23.2	21.9	23.0	33.0
Age:									
15-24	25.7	42.6	32.2	35.4	29.1	26.0	21.4	22.3	31.0
25-34	18.9	28.2	30.3	23.3	20.9	19.6	18.6	12.4	15.6
35-44	13.7	23.4	28.7	16.5	14.7	15.2	14.3	7.0	8.3
45-54	11.6	19.4	30.1	13.6	11.8	12.3	11.8	5.0	6.5
55 +	13.8	32.4	29.7	16.5	14.5	14.9	11.1	8.8	14.4
Firm Size:									
1-19	25.7	42.6	32.2	35.4	29.1	26.0	21.4	22.3	31.0
20-99	30.1	42.1	38.6	35.8	29.6	26.8	25.6	24.4	31.3
100-499	28.9	34.3	42.3	29.7	27.0	26.0	29.2	20.2	23.9
500 +	21.5	22.4	47.0	21.0	16.3	19.0	25.6	16.7	17.9
Year:									
78-81	25.7	42.6	32.2	35.4	29.1	26.0	21.4	22.3	31.0
82-83	23.9	44.5	31.6	30.6	27.1	26.2	20.3	21.5	27.4
84-86	27.5	48.4	32.2	36.7	31.1	27.4	23.9	26.5	31.3
87-89	29.1	41.3	33.0	41.3	33.9	28.9	25.2	25.9	29.5
90-92	27.3	41.4	34.7	37.7	31.8	28.1	22.5	24.6	30.9
Industry:									
Manufacturing	25.7								
Primary	29.8								
Construction	42.0								
Distserv	23.5								
Busserv	22.6								
Consserv	26.7								
HEW	16.3								
Publicserv	15.9								

Note: The reference case is Male, Age 15-24, Firm Size 1-19, Year 78-81 and Manufacturing. Probability for each category is calculated by holding other categories constant (i.e., at the reference case).

IV. Labour Market Transitions

This section reports labour market transitions in Ontario for three periods: between 1978 and 1981, between 1981 and 1984, and between 1989 and 1993. The data is again drawn from the Longitudinal Worker File (LWF) as noted above. Unlike Sections I and II which use person-jobs, this section uses the main job of the worker in the year (i.e., the job with the highest earnings) in case of workers holding more than one job in a year. The empirical sample is restricted to workers between 25 and 49 years of age in the beginning year. Estimates are weighted by a factor of 10 such that they refer to all workers.

We first report the labour market status for all workers in the beginning year(s) (i.e., 1978, 1981 and 1989) in terms of no separation, temporary separation only, and permanent separation. Permanent separations are further divided into permanent layoff and other permanent separation only. We then ask the question "what has happened in the end year(s) (i.e., 1981, 1984 and 1993) to those workers who had a permanent separation in the beginning year(s)?". Did they find employment in the end year(s)? If yes, where were they employed --- in Ontario or in other provinces?[3] And did they remain in the same industry or change to other industries?

Job Separation Status

For the province as a whole (excluding agriculture), the proportion of workers who did not have any job separation was down from 80.0% in 1978 to 77.8% in 1981, and further down to 77.4% in 1989 (see Figure 7A). And the proportion of workers with only a temporary job separation rose first from 10.3% in 1978 to 11.7% in 1981, but declined back to 10.9% in 1989 (see Figure 7B). In direct contrast, the proportion of workers who had a permanent job separation was up from 9.7% in 1978 to 10.5% in 1981, and further up to 11.7% in 1989 (see Figure 7C). As shown in Tables A6a, A6b and A6c, the pattern of job separation status varies appreciably from one industry to another. In 1989, for example, nearly half of the workers in the construction sector experienced a job separation (the proportions of workers with no separation, temporary separation only and permanent separation were 56.5%, 19.2% and 24.2%, respectively). By way of comparison, only one out of eight workers in the public sector had a job separation (the corresponding proportions were 87.6%, 9.1% and 3.3%, respectively).


Figure 7
Beginning-Year Job Separation Status in Ontario for Workers 25-49 Years of Age

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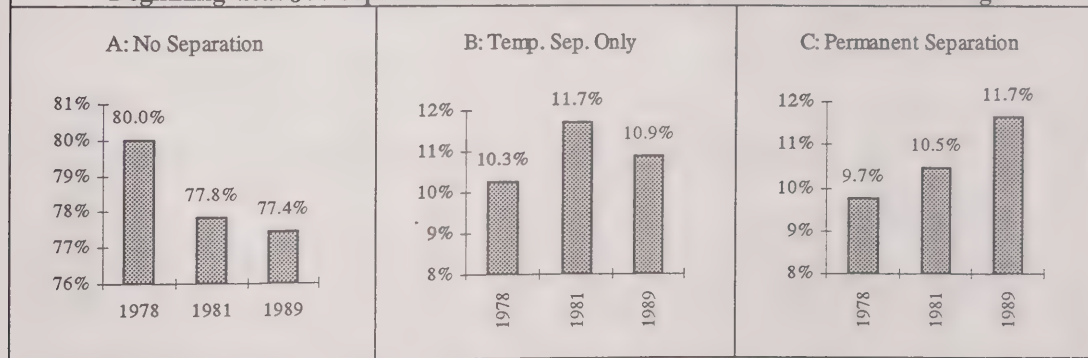
[3] Province in the LWF is built from the T4 file, and thus referred to employers' location rather than workers' residence. Hence, province for workers who were not employed in the end year can not be identified.

Breaking permanent job separations down to permanent layoffs and permanent separations for other reasons reveals that the share of permanent layoffs has consistently decreased from 1978 to 1989. Permanent layoffs represented 28.9% of total permanent separations in 1978, down to 25.7% in 1981, and further down to 20.6% in 1989 (see Figure 8A and 8B). Again, the distribution pattern of total permanent separations differs substantially across industries (see Tables A6a, A6b and A6c).

Figure 8
Distribution of Beginning-Year Permanent Job Separations in Ontario
for Workers 25-49 Years of Age

A: Separations for Other Reasons

B: Permanent Layoffs
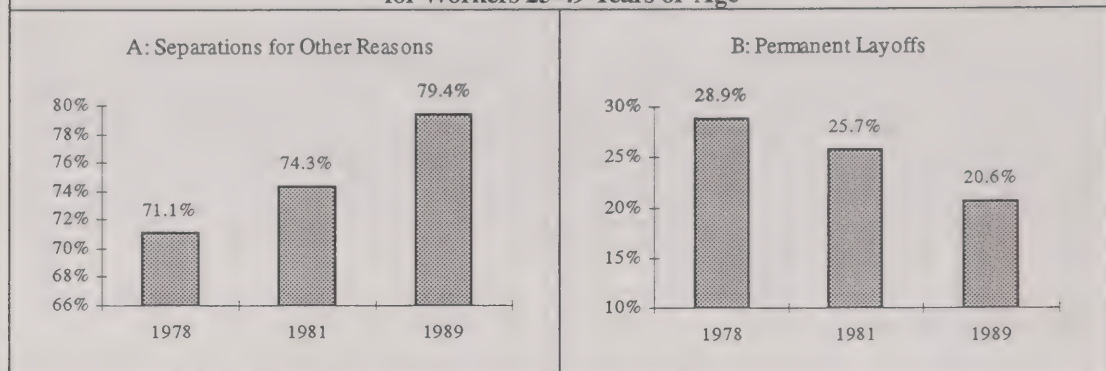
Labour Market Transitions for Workers with Permanent Job Separations

The employment status in the end year(s) for Ontario workers who had a permanent job separation in the beginning year(s) by beginning-year industry is shown in Tables A7a, A7b and A7c. For all industries, 28.8% of permanently separated workers in 1978 did not find employment in 1981. This proportion climbed slightly to 29.8% between 1981 and 1984, but remarkably to 38.9% between 1989 and 1993 (see Figure 9C). The corresponding proportion of those who found employment in the end year thus declined marginally from 71.2% for 1978-1981 to 70.2% for 1981-1984, but appreciably to 61.1% for 1989-1993 (see Figure 9A and 9B). There are again tremendous variations across different industrial sectors (see Tables A7a, A7b and A7c).[4]

Figure 9
End-Year Employment Status for Workers with a Beginning-Year
Permanent Separation in Ontario

A: Employed in Ontario

B: Employed Outside Ontario

C: Not Employed

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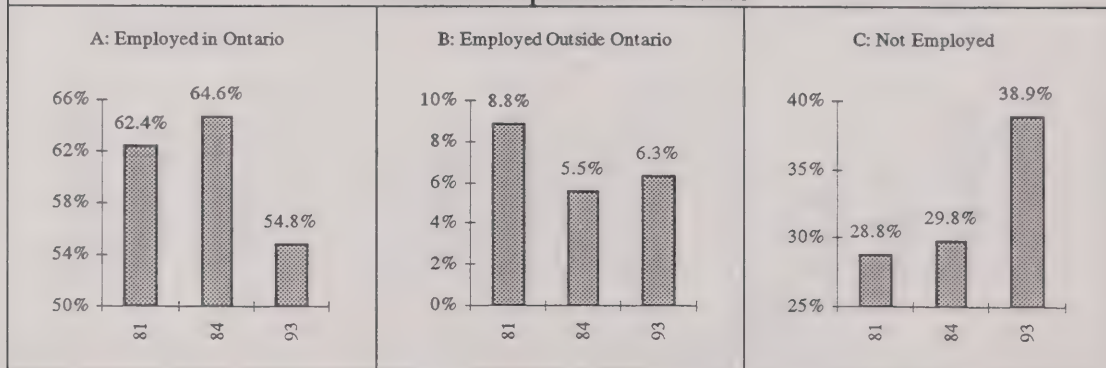
[4] These transitions only refer to the end-year(s) status, i.e., what happened in years between the transition period is not shown here.

Turn to inter-provincial mobility among workers with a permanent separation in the beginning-year(s) who found employment in the end-year(s). The proportion of those finding employment in Ontario was up from 62.4% for 1978-1981 to 64.6% for 1981-1984, but down significantly to 54.8% for 1989-1993 (see Figure 9A). In contrast, the proportion of those finding employment in other provinces declined noticeably from 8.8% for 1978-1981 to 5.5% for 1981-1984, but climbed back slightly to 6.3% for 1989-1993 (see Figure 9B).

Turning to inter-industrial mobility among workers with a permanent separation in the beginning years(s) who found employment in the end-year(s) in Ontario as well as in other provinces now. As seen in Figure 10, inter-industrial mobility is tremendous among permanently separated workers who found employment in the end-year(s) in Ontario as well as in other provinces. For displaced workers in 1978 who found employment in 1981 in Ontario, only 44.0% remained in the same industry and 56.0% moved to other industries. By 1993, 56.4% of those who had a permanent separation in 1989 moved to other industries and only 43.6% remained in the same industry (see Figure 10A).

Among those who found employment in the end year(s) in other provinces, the inter-industrial mobility is even greater. Between 1978 and 1981, only 38.9% stayed in the same industry and 61.1% moved to other industries. This pattern further strengthened between 1981 and 1984, and between 1989 and 1993. In both time periods, only 38.2% of workers with a permanent separation in the beginning year(s) who did find employment in the end year(s) in other provinces remained in the same industry and 61.8% moved to other industries (see Figure 10B).

Figure 10
Distribution of End-Year(s) Industry for Permanently Separated Workers Employed in Ontario and in Other Provinces

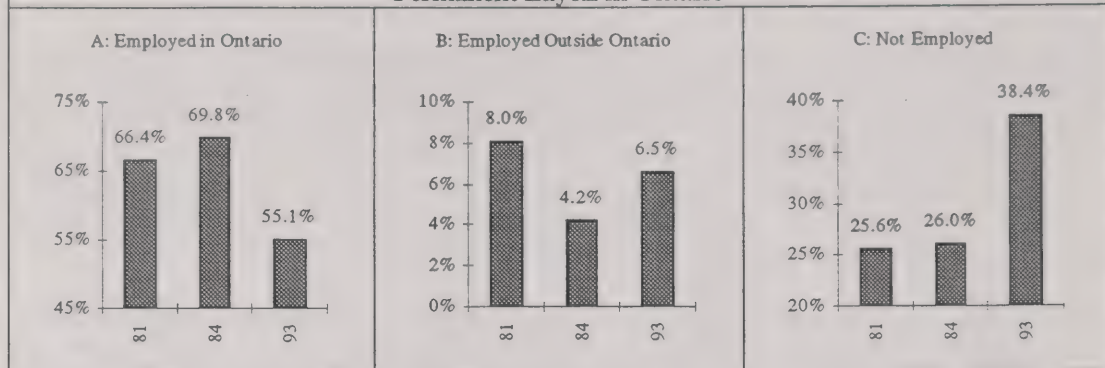A: Employed in Ontario

B: Employed in Other Provinces
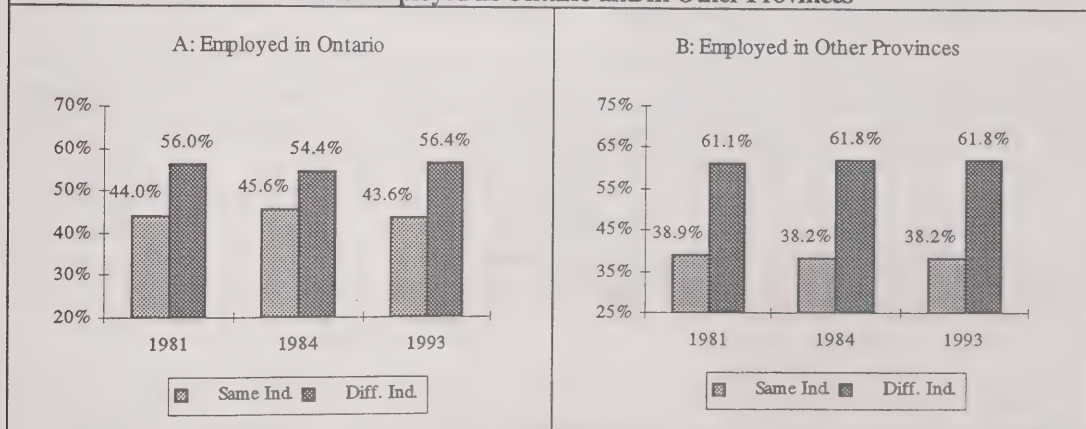
Labour Market Transitions for Permanently Laid-off Workers

Finally, Tables A8a, A8b and A8c report labour market transitions among workers who were permanently laid off between 1978 and 1981, between 1981 and 1984, and between 1989 and 1993 by the beginning-year industry. The patterns among permanently laid-off workers are very similar to those observed among permanently separated workers. The proportion of those who did not find employment was 25.6% for 1978-1981, marginally increased to 26.0% for 1981-1984, but dramatically rose to 38.4% for 1989-1993 (see Figure 11C). The proportion of those who did find employment in Ontario was up from 66.4% for 1978-1981 to 69.8% for 1981-1984, but dropped significantly to 55.1% for 1989-1993 (see Figure 11A). And the proportion of those who did find

employment in other provinces was 8.0% for 1978-1981, down to only 4.2% in 1981-1984, but up again to 6.5% for 1989-1993 (see Figure 11B).
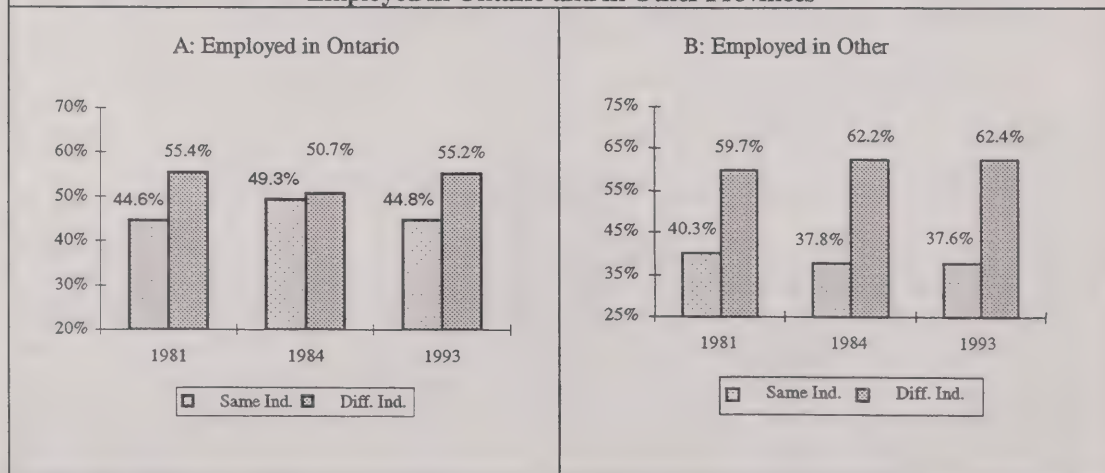
Figure 11
End-Year Employment Status for Workers with a Beginning-Year Permanent Layoff in Ontario

A: Employed in Ontario — 66.4% (81), 69.8% (84), 55.1% (93)

B: Employed Outside Ontario — 8.0% (81), 4.2% (84), 6.5% (93)

C: Not Employed — 25.6% (81), 26.0% (84), 38.4% (93)

As with permanently separated workers who found employment in the end year(s), there is also enormous inter-industrial mobility among those who were permanently laid-off in the beginning year(s) and found employment in the end year(s) in both Ontario and in other provinces. For those who found employment in Ontario, only 44.6% remained in the same industry and 55.4% moved to other industries between 1978 and 1981. This inter-industrial mobility pattern hardly changed between 1989 and 1993 --- the corresponding proportions of remaining in the same industry and moving to other industries were 44.8% and 55.2% between 1989 and 1993, respectively (see Figure 12A).

There is even more inter-industrial mobility among permanently laid-off workers who found employment in other provinces. Between 1978 and 1981, only 40.3% remained in the same industry and 59.6% moved to work in other industries. By 1993, only 37.6% were employed in the same industry as in 1989 and 62.4% moved to other industries (see Figure 12B).

Figure 12
Distribution of End-Year(s) Industry for Permanently Laid-Off Workers Employed in Ontario and in Other Provinces

A: Employed in Ontario — 1981: 44.6% (Same Ind.), 55.4% (Diff. Ind.); 1984: 49.3%, 50.7%; 1993: 44.8%, 55.2%

B: Employed in Other — 1981: 40.3% (Same Ind.), 59.7% (Diff. Ind.); 1984: 37.8%, 62.2%; 1993: 37.6%, 62.4%

Same Ind. ☐   Diff. Ind. ▨

V. Summary and Concluding Remarks

Measuring from the worker side, job turnover (especially permanent layoffs and permanent separations for other reasons) indicates, to a large degree, not only the on-going birth and death processes of firms but also the changing structure of employment among existing employers. To the same effects, labour market adjustment (including inter-provincial migration and inter-industrial mobility, among other things) reflects the changing structure of employment among provincial economies and among industrial sectors. In other words, any significant structural change of the economy will inevitably be reflected in the job turnover and labour market adjustment processes. To help better identify and understand structural changes in the Ontario economy since the late 1970s, this paper has documented job turnover and labour market adjustment activities among Ontario workers from 1978 to 1993. We conclude with the following major summary observations.

1) Both the permanent layoff rate and the total permanent separation rate vary substantially from one industry to another. In 1992, the permanent layoff and total permanent separation rates ranged from 27.3% and 34.2% in construction to only 1.4% and 9.3% in public services, respectively.

2) Both the permanent layoff rate and the total permanent separation rate also differ noticeably by gender, age and firm size --- in most industries, the rates are higher among male workers than among females, higher among younger workers, and higher among workers employed by smaller employers.

3) While the permanent layoff rate increases during business cycle downturns and decreases during business cycle upswings, the reverse trend is observed with the total permanent separation rate. This is because the quit rate and the other permanent separation rate both decline during downturns and rise during upswings, more than offsetting the opposite trend associated with the permanent layoff rate.

4) These univariate-tabulation findings are confirmed in the multi-variate logistic regression results on the statistical determinants of permanent layoffs and total permanent separations --- in most industries, after controlling for gender, age, firm size and time periods, the estimated likelihood of permanent layoffs is lower among female workers, decreases significantly with age and firm size, increases during recessions and decreases during recovery and expansion in most industries. The patterns of estimated incidence of total permanent separations are very similar to those of permanent layoffs except that total permanent separations decline during business cycle downturns and climb during business cycle upswings.

5) Permanently separated workers have had a much more difficult time in finding employment during the most recent recession than any other time in the past 15 years. Almost 40% of those who lost or left a job in 1989 did not have a job in 1993. This is in marked contrast with the experience of the early 1980s, when 29% of permanently separated workers were jobless 3 years after the separation. A very similar trend is found when the analysis is applied to labour market transitions among permanently laid-off workers.

6) There is a great deal of out-of-province migration among permanently separated workers who did find a job. Nearly 45% of those who lost or left a job in 1989 and found a job in 1993 were employed outside of Ontario. An identical proportion of permanently laid-off workers is found to be employed in other provinces.

7) There is tremendous inter-industrial mobility among permanently separated workers who found employment in Ontario. Less than 44% of those separated from a job in 1989 and found employment in 1993 in Ontario have remained in the same industry. Inter-industrial mobility is even greater among permanently separated workers in 1989 who did find employment in 1993 in other provinces --- only 38% stayed in the same industry. Very similar inter-industrial mobility patterns are observed among permanently laid-off workers who found a job in Ontario as well as outside of Ontario.

Appendices

Table A1
Industry Classification

	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
SIC 1970	031-099	400-499	101-399	501-579, 602-629	701-737, 851-869	631-699, 841-849, 871-899	800-839	900-999
SIC 1980	031-092	401-440, 449	101-399	450-499, 501-599, 996	441, 700-761, 771-779	601-692, 910-980, 982-995, 999	851-869, 981	810 - 841

Table A2
Permanent Layoff Rate by Industry in Ontario, 1978 to 1992

	All Industries (excluding Agriculture)	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
1978	5.5	7.3	25.1	4.7	3.8	3.4	5.0	1.5	3.7
1979	5.0	6.6	24.0	4.6	3.7	3.1	4.4	1.1	3.0
1980	4.7	5.6	23.4	5.0	3.6	3.0	4.0	0.8	1.7
1981	5.0	6.7	25.0	5.7	4.0	2.8	3.8	0.8	2.0
1982	6.5	9.9	28.4	7.9	5.9	5.0	5.2	1.0	2.2
1983	5.5	10.0	26.8	5.5	4.7	3.8	4.9	1.3	2.0
1984	5.3	10.1	26.3	5.0	4.3	3.8	4.7	1.4	2.1
1985	4.9	11.0	23.2	5.0	4.8	3.1	4.2	1.2	1.8
1986	4.4	9.6	20.4	4.4	4.0	3.0	3.6	1.0	1.7
1987	4.2	8.9	19.6	3.9	5.2	2.7	2.9	1.0	1.4
1988	3.8	9.7	19.3	3.9	3.0	2.7	2.7	0.9	1.1
1989	3.9	9.0	19.9	4.3	3.0	2.7	2.4	1.1	1.2
1990	5.3	14.1	25.5	6.9	4.8	4.0	3.2	1.3	1.1
1991	5.6	12.1	27.8	6.8	5.3	4.3	4.4	1.5	1.3
1992	5.5	13.7	27.3	6.3	4.9	4.5	4.5	1.9	1.4
1978 - 1981	5.0	6.6	24.4	5.0	3.8	3.0	4.3	1.0	2.6
1982 - 1983	6.0	9.9	27.6	6.7	5.3	4.4	5.0	1.1	2.1
1984 - 1986	4.8	10.2	23.1	4.8	4.4	3.3	4.1	1.2	1.9
1987 - 1988	4.0	9.3	19.5	3.9	4.1	2.7	2.8	1.0	1.2
1989 - 1992	5.0	12.1	24.6	6.0	4.5	3.8	3.6	1.4	1.2

Note: The permanent layoff rate is defined as the number of persons permanently laid-off from the job expressed as a percentage of the total number of person-jobs.

Total Permanent Separation Rate by Industry in Ontario, 1978 to 1992

	All Industries (excluding Agriculture)	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
1978	19.0	19.9	36.2	19.0	15.6	17.1	22.4	10.9	14.1
1979	20.4	19.5	36.9	21.8	18.1	18.3	23.7	11.0	12.9
1980	19.4	19.8	35.9	20.1	17.5	18.1	23.5	10.9	9.0
1981	20.6	20.1	39.5	21.8	18.4	18.9	24.7	10.9	10.9
1982	18.7	21.0	38.4	18.5	16.7	18.7	22.7	10.2	10.2
1983	16.8	18.8	35.2	15.4	14.7	15.6	21.5	10.1	9.7
1984	19.5	22.6	37.0	18.6	16.8	18.2	24.9	11.2	10.5
1985	20.6	22.8	35.8	20.2	18.7	18.4	25.9	12.2	11.7
1986	21.1	21.8	34.8	21.1	19.0	18.6	26.8	12.1	10.8
1987	21.9	22.2	35.6	22.5	20.6	19.3	26.7	12.8	11.1
1988	22.6	23.7	36.4	24.2	20.7	20.1	27.9	12.5	9.3
1989	22.2	22.4	36.9	24.5	20.8	19.5	26.4	12.7	8.9
1990	21.5	25.4	38.5	23.2	20.5	20.0	25.6	11.4	8.5
1991	18.7	21.3	36.5	18.7	18.3	17.1	23.2	10.2	9.3
1992	17.3	21.9	34.2	17.0	15.3	16.5	21.7	10.4	9.3
1978 - 1981	19.9	19.8	37.1	20.7	17.4	18.1	23.6	10.9	11.6
1982 - 1983	17.8	19.9	36.8	16.9	15.7	17.1	22.1	10.1	9.9
1984 - 1986	20.4	22.4	35.8	20.0	18.2	18.4	25.9	11.9	11.0
1987 - 1988	22.3	22.9	36.0	23.4	20.7	19.7	27.3	12.7	10.2
1989 - 1992	20.1	22.9	36.7	21.2	18.8	18.4	24.4	11.2	9.0

Note: The total permanent separation rate is defined as the number of persons permanently separated (including permanent layoffs, quits and permanent separations for other reasons) from the job expressed as a percentage of the total number of person-jobs.

Logistic Regression Results on Permanent Layoffs in Ontario, 1978-1992
(Dep. Var. = 1 if worker i in year t is permanently laid off from the job, and = 0 otherwise)

	Full Model (1)		Primary (2)		Construction (3)		Manufacturing (4)		Distributive Services (5)	
	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error
Constant	-2.5342	0.03	-1.4188	0.19	-1.5747	0.05	-2.1812	0.06	-2.6647	0.09
Female	-0.2051	0.02	-0.1801	0.22	-0.6874	0.08	-0.0238	0.04	-0.0511	0.06
Age2534	-0.0025	0.02	-0.3352	0.18	0.1010	0.05	-0.2133	0.05	-0.0736	0.07
Age3544	-0.1541	0.03	-0.5198	0.20	0.1178	0.06	-0.5653	0.06	-0.2383	0.09
Age4554	-0.0493	0.03	-0.6036	0.23	0.2916	0.06	-0.4186	0.07	-0.3449	0.10
Age5569	-0.1106	0.04	-0.2058	0.24	0.2200	0.08	-0.5017	0.08	-0.3140	0.12
Medium	-0.0908	0.03	-0.1903	0.19	0.2961	0.05	-0.3112	0.06	-0.2781	0.07
Large	-0.2465	0.03	-1.1400	0.22	0.5215	0.05	-0.6455	0.06	-0.6153	0.09
Exlarge	-0.7969	0.03	-1.4681	0.17	0.6700	0.07	-1.0531	0.06	-1.1546	0.08
YR8283	0.2344	0.03	0.3055	0.23	0.2171	0.07	0.2766	0.07	0.4632	0.10
YR8486	0.0312	0.03	0.4184	0.19	0.0402	0.06	-0.0083	0.06	0.2763	0.09
YR8789	-0.1835	0.03	0.0130	0.21	-0.1176	0.06	-0.1304	0.06	-0.0422	0.09
YR9092	0.2431	0.03	0.5051	0.21	0.2788	0.06	0.4429	0.06	0.4270	0.09
Primary	0.6344	0.07								
Const	1.4196	0.03								
Distserv	-0.2230	0.03								
Busserv	-0.4441	0.04								
Consserv	-0.4260	0.03								
HEW	-1.3909	0.06								
Publicserv	-0.7206	0.06								
Sample Size	266174		2909		16167		58642		31063	

Table A4 (concluded)
Logistic Regression Results on Permanent Layoffs in Ontario, 1978-1992
(Dep. Var. = 1 if worker i in year t is permanently laid off from the job, and = 0 otherwise)

	Business & Financial Services (6)		Consumer Services (7)		Health, Education, Welfare (8)		Public Services (9)	
	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error
Constant	-2.8218	0.10	-2.8020	0.06	-3.4263	0.19	-1.9809	0.20
Female	-0.3349	0.06	-0.3166	0.04	-0.1253	0.11	-0.0225	0.11
Age2534	-0.1785	0.08	0.3409	0.05	-0.7736	0.14	-0.5523	0.13
Age3544	-0.1590	0.09	0.1344	0.07	-0.9610	0.15	-1.3572	0.19
Age4554	-0.2482	0.11	0.2722	0.07	-1.1621	0.19	-1.5329	0.24
Age5569	-0.2639	0.13	0.0585	0.09	-0.6100	0.19	-1.2775	0.24
Medium	-0.2238	0.09	-0.5115	0.05	-0.3023	0.21	0.0994	0.23
Large	-0.3407	0.09	-0.6550	0.07	-0.6489	0.20	-0.4419	0.23
Exlarge	-1.0721	0.08	-0.9691	0.06	-0.4764	0.14	-1.3590	0.19
YR8283	0.4469	0.11	0.1672	0.07	-0.3044	0.21	-0.1946	0.17
YR8486	0.0774	0.11	-0.0089	0.06	0.0254	0.16	-0.3389	0.16
YR8789	-0.0772	0.10	-0.3074	0.06	-0.2942	0.17	-0.6957	0.18
YR9092	0.4730	0.09	-0.0070	0.06	0.3197	0.15	-0.3770	0.17
Sample Size	35140		66921		36896		18436	

Logistic Regression Results on Total Permanent Separations in Ontario, 1978-1992
(Dep. Var. = 1 if worker i in year t is permanently separated from the job, and = 0 otherwise)

	Full Model (1) Parameter Estimate	Standard Error	Primary (2) Parameter Estimate	Standard Error	Construction (3) Parameter Estimate	Standard Error	Manufacturing (4) Parameter Estimate	Standard Error	Distributive Services (5) Parameter Estimate	Standard Error
Constant	-1.0598	0.02	-0.2998	0.14	-0.7349	0.04	-0.5997	0.04	-0.8883	0.05
Female	0.0270	0.01	-0.1836	0.16	-0.4613	0.07	0.1154	0.02	0.0170	0.03
Age2534	-0.3986	0.01	-0.6326	0.13	-0.0885	0.04	-0.5934	0.03	-0.4424	0.04
Age3544	-0.7819	0.02	-0.8876	0.14	-0.1647	0.05	-1.0242	0.03	-0.8669	0.05
Age4554	-0.9678	0.02	-1.1253	0.17	-0.0987	0.06	-1.2478	0.04	-1.1259	0.06
Age5569	-0.7755	0.02	-0.4352	0.17	-0.1174	0.07	-1.0209	0.04	-0.8821	0.07
Medium	0.2157	0.02	-0.0197	0.15	0.2810	0.04	0.0168	0.04	0.0225	0.04
Large	0.1583	0.02	-0.3496	0.15	0.4333	0.05	-0.2624	0.04	-0.1059	0.05
Exlarge	-0.2323	0.01	-0.9448	0.12	0.6240	0.07	-0.7248	0.03	-0.7460	0.04
YR8283	-0.0975	0.02	0.0778	0.16	-0.0298	0.06	-0.2182	0.04	-0.1015	0.06
YR8486	0.0911	0.02	0.2373	0.13	0.0016	0.05	0.0561	0.03	0.0930	0.05
YR8789	0.1708	0.01	-0.0525	0.14	0.0378	0.05	0.2484	0.03	0.2211	0.04
YR9092	0.0792	0.02	-0.0477	0.15	0.1117	0.05	0.0963	0.03	0.1270	0.05
Primary	0.2038	0.05								
Const	0.7365	0.02								
Distserv	-0.1200	0.02								
Busserv	-0.1715	0.02								
Consserv	0.0520	0.02								
HEW	-0.5731	0.02								
Publicserv	-0.6066	0.03								
Sample Size	266174		2909		16167		58642		31063	

Table A5 (concluded)
Logistic Regression Results on Total Permanent Separations in Ontario, 1978-1992
(Dep. Var. = 1 if worker i in year t is permanently separated from the job, and = 0 otherwise)

	Business & Financial Services (6) Parameter Estimate	Standard Error	Consumer Services (7) Parameter Estimate	Standard Error	Health, Education, Welfare (8) Parameter Estimate	Standard Error	Public Services (9) Parameter Estimate	Standard Error
Constant	-1.0459	0.05	-1.3023	0.03	-1.2464	0.07	-0.8024	0.12
Female	-0.1530	0.03	0.0314	0.02	0.0393	0.04	0.0960	0.05
Age2534	-0.3669	0.04	-0.1767	0.02	-0.7127	0.04	-0.8861	0.06
Age3544	-0.6702	0.04	-0.4859	0.03	-1.3467	0.05	-1.6041	0.08
Age4554	-0.9203	0.06	-0.7084	0.04	-1.6950	0.07	-1.8637	0.11
Age5569	-0.6950	0.07	-0.7828	0.05	-1.0923	0.07	-0.9790	0.09
Medium	0.0428	0.04	0.2344	0.03	0.1146	0.07	0.0164	0.14
Large	-0.0010	0.05	0.4144	0.03	-0.1293	0.07	-0.3533	0.14
Exlarge	-0.4068	0.04	0.2334	0.02	-0.3604	0.05	-0.7183	0.11
YR8283	0.0117	0.06	-0.0628	0.04	-0.0487	0.07	-0.1707	0.09
YR8486	0.0733	0.05	0.1438	0.03	0.2245	0.05	0.0163	0.07
YR8789	0.1444	0.04	0.2143	0.03	0.1972	0.05	-0.0692	0.08
YR9092	0.1083	0.04	0.0671	0.03	0.1245	0.05	-0.0015	0.08
Sample Size	35140		66921		36896		18436	

Table A6a
Job Separation Status for Ontario Workers 25-49 Years of Age, 1978

	All Industries	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
No Separation									
Number	1,698,300	20,490	68,060	459,960	262,520	208,310	257,010	282,590	139,360
% Column Total	80.0	59.9	56.7	77.6	84.4	85.3	78.5	84.8	87.3
Temporary Separation									
Number	218,010	10,950	25,890	80,880	23,620	11,130	25,340	29,230	10,970
% Column Total	10.3	32.0	21.6	13.6	7.6	4.6	7.7	8.8	6.9
Permanent Separation									
Number	206,420	2,780	26,110	51,990	24,920	24,840	45,170	21,240	9,370
% Column Total	9.7	8.1	21.7	8.8	8.0	10.2	13.8	6.4	5.9
Other Separation									
Number	*146,820*	*1,970*	*7,020*	*39,070*	*18,740*	*20,290*	*33,980*	*18,650*	*7,100*
% Column Total	*6.9*	*5.8*	*5.8*	*6.6*	*6.0*	*8.3*	*10.4*	*5.6*	*4.4*
% Permanent Separation	*71.1*	*70.9*	*26.9*	*75.1*	*75.2*	*81.7*	*75.2*	*87.8*	*75.8*
Permanent Layoff									
Number	*59,600*	*810*	*19,090*	*12,920*	*6,180*	*4,550*	*11,190*	*2,590*	*2,270*
• % Column Total	*2.8*	*2.4*	*15.9*	*2.2*	*2.0*	*1.9*	*3.4*	*0.8*	*1.4*
% Permanent Separation	*28.9*	*29.1*	*73.1*	*24.9*	*24.8*	*18.3*	*24.8*	*12.2*	*24.2*
Total									
Number	2,122,730	34,220	120,060	592,830	311,060	244,280	327,520	333,060	159,700
% Row Dist'n	100.0	1.6	5.7	27.9	14.7	11.5	15.4	15.7	7.5

Table A6b
Job Separation Status for Ontario Workers 25-49 Years of Age, 1981

	All Industries	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
No Separation									
Number	1,805,460	30,830	58,770	455,600	241,350	240,000	276,340	308,170	194,400
% Column Total	77.8	79.0	53.6	71.8	80.3	83.6	76.5	84.1	88.1
Temporary Separation									
Number	271,250	4,740	24,900	113,630	31,680	15,230	30,220	35,120	15,730
% Column Total	11.7	12.2	22.7	17.9	10.5	5.3	8.4	9.6	7.1
Permanent Separation									
Number	242,450	3,440	25,910	65,160	27,690	31,990	54,690	22,940	10,630
% Column Total	10.5	8.8	23.6	10.3	9.2	11.1	15.1	6.3	4.8
Other Separation									
Number	*180,080*	*2,210*	*8,900*	*45,820*	*21,630*	*27,270*	*44,040*	*21,380*	*8,830*
% Column Total	*7.8*	*5.7*	*8.1*	*7.2*	*7.2*	*9.5*	*12.2*	*5.8*	*4.0*
% Permanent Separation	*74.3*	*64.2*	*34.3*	*70.3*	*78.1*	*85.2*	*80.5*	*93.2*	*83.1*
Permanent Layoff									
Number	*62,370*	*1,230*	*17,010*	*19,340*	*6,060*	*4,720*	*10,650*	*1,560*	*1,800*
% Column Total	*2.7*	*3.2*	*15.5*	*3.0*	*2.0*	*1.6*	*2.9*	*0.4*	*0.8*
% Permanent Separation	*25.7*	*35.8*	*65.7*	*29.7*	*21.9*	*14.8*	*19.5*	*6.8*	*16.9*
Total									
Number	2,319,160	39,010	109,580	634,390	300,720	287,220	361,250	366,230	220,760
% Row Dist'n	100.0	1.7	4.7	27.4	13.0	12.4	15.6	15.8	9.5

Job Separation Status for Ontario Workers 25-49 Years of Age, 1989

	All Industries	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
No Separation									
Number	2,384,210	23,590	95,290	530,490	310,910	414,190	386,070	425,060	198,610
% Column Total	77.4	74.5	56.5	72.2	80.2	82.4	75.8	82.1	87.6
Temporary Separation									
Number	335,410	4,450	32,380	115,190	34,440	30,450	42,570	55,400	20,530
% Column Total	10.9	14.1	19.2	15.7	8.9	6.1	8.4	10.7	9.1
Permanent Separation									
Number	358,970	3,620	40,840	89,060	42,270	57,840	80,620	37,140	7,580
% Column Total	11.7	11.4	24.2	12.1	10.9	11.5	15.8	7.2	3.3
Other Separation									
Number	*285,080*	*2,120*	*17,200*	*70,550*	*35,460*	*49,990*	*69,100*	*33,950*	*6,710*
% Column Total	*9.3*	*6.7*	*10.2*	*9.6*	*9.1*	*9.9*	*13.6*	*6.6*	*3.0*
% Permanent Separation	*79.4*	*58.6*	*42.1*	*79.2*	*83.9*	*86.4*	*85.7*	*91.4*	*88.5*
Permanent Layoff									
Number	*73,890*	*1,500*	*23,640*	*18,510*	*6,810*	*7,850*	*11,520*	*3,190*	*870*
% Column Total	*2.4*	*4.7*	*14.0*	*2.5*	*1.8*	*1.6*	*2.3*	*0.6*	*0.4*
% Permanent Separation	*20.6*	*41.4*	*57.9*	*20.8*	*16.1*	*13.6*	*14.3*	*8.6*	*11.5*
Total									
Number	3,078,590	31,660	168,510	734,740	387,620	502,480	509,260	517,600	226,720
% Row Dist'n	100.0	1.0	5.5	23.9	12.6	16.3	16.5	16.8	7.4

Table A7a
Labour Market Transitions in Ontario between 1978 and 1981, Workers 25-49 Years of Age with a Permanent Separation in 1978

1981 Employment Status	All Industries	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
Employed in Ontario									
Number	**128,860**	**1,680**	**17,780**	**33,150**	**15,960**	**15,420**	**27,270**	**12,110**	**5,490**
% Column Total	**62.4**	**60.4**	**68.1**	**63.8**	**64.0**	**62.1**	**60.4**	**57.0**	**58.6**
Same Industry									
Number	*56,720*	*420*	*8,880*	*16,300*	*4,470*	*6,230*	*12,800*	*6,520*	*1,100*
% Column Total	*27.5*	*15.1*	*34.0*	*31.4*	*17.9*	*25.1*	*28.3*	*30.7*	*11.7*
% in Ontario	*44.0*	*25.0*	*49.9*	*49.2*	*28.0*	*40.4*	*46.9*	*53.8*	*20.0*
Different Industry									
Number	*72,140*	*1,260*	*8,900*	*16,850*	*11,490*	*9,190*	*14,470*	*5,590*	*4,390*
% Column Total	*34.9*	*45.3*	*34.1*	*32.4*	*46.1*	*37.0*	*32.0*	*26.3*	*46.9*
% in Ontario	*56.0*	*75.0*	*50.1*	*50.8*	*72.0*	*59.6*	*53.1*	*46.2*	*80.0*
Employed outside Ontario									
Number	**18,140**	**580**	**2,790**	**3,900**	**2,410**	**1,910**	**3,280**	**2,110**	**1,160**
% Column Total	**8.8**	**20.9**	**10.7**	**7.5**	**9.7**	**7.7**	**7.3**	**9.9**	**12.4**
Same Industry									
Number	*7,050*	*180*	*1,440*	*1,240*	*680*	*660*	*1,270*	*1,210*	*370*
% Column Total	*3.4*	*6.5*	*5.5*	*2.4*	*2.7*	*2.7*	*2.8*	*5.7*	*3.9*
% outside Ontario	*38.9*	*31.0*	*51.6*	*31.8*	*28.2*	*34.6*	*38.7*	*57.3*	*31.9*
Different Industry									
Number	*11,090*	*400*	*1,350*	*2,660*	*1,730*	*1,250*	*2,010*	*900*	*790*
% Column Total	*5.4*	*14.4*	*5.2*	*5.1*	*6.9*	*5.0*	*4.4*	*4.2*	*8.4*
% outside Ontario	*61.1*	*69.0*	*48.4*	*68.2*	*71.8*	*65.4*	*61.3*	*42.7*	*68.1*
Not Employed									
Number	**59,420**	**520**	**5,540**	**14,940**	**6,550**	**7,510**	**14,620**	**7,020**	**2,720**
% Column Total	**28.8**	**18.7**	**21.2**	**28.7**	**26.3**	**30.2**	**32.4**	**33.1**	**29.0**
Total									
Number	**206,420**	**2,780**	**26,110**	**51,990**	**24,920**	**24,840**	**45,170**	**21,240**	**9,370**
% Row Dist'n	**100.0**	**1.3**	**12.6**	**25.2**	**12.1**	**12.0**	**21.9**	**10.3**	**4.5**

Table A7b
Labour Market Transitions in Ontario between 1981 and 1984, Workers 25-49 Years of Age with a Permanent Separation in 1981

1984 Employment Status	All Industries	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
Employed in Ontario									
Number	156,700	2,090	18,280	43,780	18,240	20,540	33,770	13,760	6,240
% Column Total	64.6	60.8	70.6	67.2	65.9	64.2	61.7	60.0	58.7
Same Industry									
Number	*71,500*	*500*	*9,820*	*21,780*	*5,580*	*8,360*	*16,190*	*7,910*	*1,360*
% Column Total	*29.5*	*14.5*	*37.9*	*33.4*	*20.2*	*26.1*	*29.6*	*34.5*	*12.8*
% in Ontario	*45.6*	*23.9*	*53.7*	*49.7*	*30.6*	*40.7*	*47.9*	*57.5*	*21.8*
Different Industry									
Number	*85,200*	*1,590*	*8,460*	*22,000*	*12,660*	*12,180*	*17,580*	*5,850*	*4,880*
% Column Total	*35.1*	*46.2*	*32.7*	*33.8*	*45.7*	*38.1*	*32.1*	*25.5*	*45.9*
% in Ontario	*54.4*	*76.1*	*46.3*	*50.3*	*69.4*	*59.3*	*52.1*	*42.5*	*78.2*
Employed outside Ontario									
Number	13,400	430	1,500	2,800	1,740	1,720	2,420	1,800	990
% Column Total	5.5	12.5	5.8	4.3	6.3	5.4	4.4	7.8	9.3
Same Industry									
Number	*5,120*	*100*	*530*	*750*	*510*	*540*	*1,240*	*1,080*	*370*
% Column Total	*2.1*	*2.9*	*2.0*	*1.2*	*1.8*	*1.7*	*2.3*	*4.7*	*3.5*
% outside Ontario	*38.2*	*23.3*	*35.3*	*26.8*	*29.3*	*31.4*	*51.2*	*60.0*	*37.4*
Different Industry									
Number	*8,280*	*330*	*970*	*2,050*	*1,230*	*1,180*	*1,180*	*720*	*620*
% Column Total	*3.4*	*9.6*	*3.7*	*3.1*	*4.4*	*3.7*	*2.2*	*3.1*	*5.8*
% outside Ontario	*61.8*	*76.7*	*64.7*	*73.2*	*70.7*	*68.6*	*48.8*	*40.0*	*62.6*
Not Employed									
Number	72,350	920	6,130	18,580	7,710	9,730	18,500	7,380	3,400
% Column Total	29.8	26.7	23.7	28.5	27.8	30.4	33.8	32.2	32.0
Total									
Number	242,450	3,440	25,910	65,160	27,690	31,990	54,690	22,940	10,630
% Row Dist'n	100.0	1.4	10.7	26.9	11.4	13.2	22.6	9.5	4.4

Table A7c
Labour Market Transitions in Ontario between 1989 and 1993, Workers 25-49 Years of Age with a Permanent Separation in 1989

1993 Employment Status	All Industries	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
Employed in Ontario									
Number	196,760	1,790	20,860	49,540	23,980	32,150	42,410	22,100	3,930
% Column Total	54.8	49.4	51.1	55.6	56.7	55.6	52.6	59.5	51.8
Same Industry									
Number	85,820	310	9,460	19,420	8,160	13,680	20,120	13,820	850
% Column Total	23.9	8.6	23.2	21.8	19.3	23.7	25.0	37.2	11.2
% in Ontario	43.6	17.3	45.3	39.2	34.0	42.6	47.4	62.5	21.6
Different Industry									
Number	110,940	1,480	11,400	30,120	15,820	18,470	22,290	8,280	3,080
% Column Total	30.9	40.9	27.9	33.8	37.4	31.9	27.6	22.3	40.6
% in Ontario	56.4	82.7	54.7	60.8	66.0	57.4	52.6	37.5	78.4
Employed outside Ontario									
Number	22,690	540	4,130	4,340	2,500	3,460	3,800	3,030	890
% Column Total	6.3	14.9	10.1	4.9	5.9	6.0	4.7	8.2	11.7
Same Industry									
Number	8,670	140	1,970	1,170	840	1,000	1,740	1,590	220
% Column Total	2.4	3.9	4.8	1.3	2.0	1.7	2.2	4.3	2.9
% outside Ontario	38.2	25.9	47.7	27.0	33.6	28.9	45.8	52.5	24.7
Different Industry									
Number	14,020	400	2,160	3,170	1,660	2,460	2,060	1,440	670
% Column Total	3.9	11.0	5.3	3.6	3.9	4.3	2.6	3.9	8.8
% outside Ontario	61.8	74.1	52.3	73.0	66.4	71.1	54.2	47.5	75.3
Not Employed									
Number	139,520	1,290	15,850	35,180	15,790	22,230	34,410	12,010	2,760
% Column Total	38.9	35.6	38.8	39.5	37.4	38.4	42.7	32.3	36.4
Total									
Number	358,970	3,620	40,840	89,060	42,270	57,840	80,620	37,140	7,580
% Row Dist'n	100.0	1.0	11.4	24.8	11.8	16.1	22.5	10.3	2.1

Table A8a
Labour Market Transitions in Ontario between 1978 and 1981,
Workers 25-49 Years of Age with a Permanent Layoff in 1978

1981 Employment Status	All Industries	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
Employed in Ontario									
Number	**39,560**	**510**	**13,410**	**8,800**	**4,200**	**2,960**	**6,760**	**1,570**	**1,350**
% Column Total	66.4	63.0	70.2	68.1	68.0	65.1	60.4	60.6	59.5
Same Industry									
Number	*17,640*	*100*	*6,960*	*4,310*	*1,110*	*900*	*3,280*	*670*	*310*
% Column Total	*29.6*	*12.3*	*36.5*	*33.4*	*18.0*	*19.8*	*29.3*	*25.9*	*13.7*
% in Ontario	*44.6*	*19.6*	*51.9*	*49.0*	*26.4*	*30.4*	*48.5*	*42.7*	*23.0*
Different Industry									
Number	*21,920*	*410*	*6,450*	*4,490*	*3,090*	*2,060*	*3,480*	*900*	*1,040*
% Column Total	*36.8*	*50.6*	*33.8*	*34.8*	*50.0*	*45.3*	*31.1*	*34.7*	*45.8*
% in Ontario	*55.4*	*80.4*	*48.1*	*51.0*	*73.6*	*69.6*	*51.5*	*57.3*	*77.0*
Employed outside Ontario									
Number	**4,790**	**180**	**2,020**	**730**	**470**	**270**	**750**	**210**	**160**
% Column Total	8.0	22.2	10.6	5.7	7.6	5.9	6.7	8.1	7.0
Same Industry									
Number	*1,930*	*40*	*1,050*	*220*	*120*	*100*	*260*	*120*	*20*
% Column Total	*3.2*	*4.9*	*5.5*	*1.7*	*1.9*	*2.2*	*2.3*	*4.6*	*0.9*
% outside Ontario	*40.3*	*22.2*	*52.0*	*30.1*	*25.5*	*37.0*	*34.7*	*57.1*	*12.5*
Different Industry									
Number	*2,860*	*140*	*970*	*510*	*350*	*170*	*490*	*90*	*140*
% Column Total	*4.8*	*17.3*	*5.1*	*3.9*	*5.7*	*3.7*	*4.4*	*3.5*	*6.2*
% outside Ontario	*59.7*	*77.8*	*48.0*	*69.9*	*74.5*	*63.0*	*65.3*	*42.9*	*87.5*
Not Employed									
Number	**15,250**	**120**	**3,660**	**3,390**	**1,510**	**1,320**	**3,680**	**810**	**760**
% Column Total	25.6	14.8	19.2	26.2	24.4	29.0	32.9	31.3	33.5
Total									
Number	**59,600**	**810**	**19,090**	**12,920**	**6,180**	**4,550**	**11,190**	**2,590**	**2,270**
% Row Dist'n	100.0	1.4	32.0	21.7	10.4	7.6	18.8	4.3	3.8

Table A8b
Labour Market Transitions in Ontario between 1981 and 1984,
Workers 25-49 Years of Age with a Permanent Layoff in 1981

1984 Employment Status	All Industries	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
Employed in Ontario									
Number	43,550	820	12,590	14,030	4,080	3,130	6,890	970	1,040
% Column Total	69.8	66.7	74.0	72.5	67.3	66.3	64.7	62.2	57.8
Same Industry									
Number	21,450	200	7,200	7,740	1,180	1,120	3,300	480	230
% Column Total	34.4	16.3	42.3	40.0	19.5	23.7	31.0	30.8	12.8
% in Ontario	49.3	24.4	57.2	55.2	28.9	35.8	47.9	49.5	22.1
Different Industry									
Number	22,100	620	5,390	6,290	2,900	2,010	3,590	490	810
% Column Total	35.4	50.4	31.7	32.5	47.9	42.6	33.7	31.4	45.0
% in Ontario	50.7	75.6	42.8	44.8	71.1	64.2	52.1	50.5	77.9
Employed outside Ontario									
Number	2,620	110	890	510	410	210	340	80	70
% Column Total	4.2	8.9	5.2	2.6	6.8	4.4	3.2	5.1	3.9
Same Industry									
Number	990	40	370	160	150	50	160	30	30
% Column Total	1.6	3.3	2.2	0.8	2.5	1.1	1.5	1.9	1.7
% outside Ontario	37.8	36.4	41.6	31.4	36.6	23.8	47.1	37.5	42.9
Different Industry									
Number	1,630	70	520	350	260	160	180	50	40
% Column Total	2.6	5.7	3.1	1.8	4.3	3.4	1.7	3.2	2.2
% outside Ontario	62.2	63.6	58.4	68.6	63.4	76.2	52.9	62.5	57.1
Not Employed									
Number	16,200	300	3,530	4,800	1,570	1,380	3,420	510	690
% Column Total	26.0	24.4	20.8	24.8	25.9	29.2	32.1	32.7	38.3
Total									
Number	62,370	1,230	17,010	19,340	6,060	4,720	10,650	1,560	1,800
% Row Dist'n	100.0	2.0	27.3	31.0	9.7	7.6	17.1	2.5	2.9

Labour Market Transitions in Ontario between 1989 and 1993, Workers 25-49 Years of Age with a Permanent Layoff in 1989

					1989 Industry of Employment				
1993 Employment Status	All Industries	Primary	Construction	Manufacturing	Distributive Services	Business and Financial Services	Consumer Services	Health, Education, Welfare	Public Services
Employed in Ontario									
Number	40,690	740	12,380	10,740	3,770	4,360	6,270	1,930	500
% Column Total	55.1	49.3	52.4	58.0	55.4	55.5	54.4	60.5	57.5
Same Industry									
Number	*18,220*	*110*	*6,210*	*4,740*	*1,350*	*1,580*	*3,080*	*1,050*	*100*
% Column Total	*24.7*	*7.3*	*26.3*	*25.6*	*19.8*	*20.1*	*26.7*	*32.9*	*11.5*
% in Ontario	*44.8*	*14.9*	*50.2*	*44.1*	*35.8*	*36.2*	*49.1*	*54.4*	*20.0*
Different Industry									
Number	*22,470*	*630*	*6,170*	*6,000*	*2,420*	*2,780*	*3,190*	*880*	*400*
% Column Total	*30.4*	*42.0*	*26.1*	*32.4*	*35.5*	*35.4*	*27.7*	*27.6*	*46.0*
% in Ontario	*55.2*	*85.1*	*49.8*	*55.9*	*64.2*	*63.8*	*50.9*	*45.6*	*80.0*
Employed outside Ontario									
Number	4,820	180	2,320	780	370	430	420	290	30
% Column Total	6.5	12.0	9.8	4.2	5.4	5.5	3.6	9.1	3.4
Same Industry									
Number	*1,810*	*40*	*1,120*	*160*	*140*	*90*	*170*	*90*	*0*
% Column Total	*2.4*	*2.7*	*4.7*	*0.9*	*2.1*	*1.1*	*1.5*	*2.8*	*0.0*
% outside Ontario	*37.6*	*22.2*	*48.3*	*20.5*	*37.8*	*20.9*	*40.5*	*31.0*	*0.0*
Different Industry									
Number	*3,010*	*140*	*1,200*	*620*	*230*	*340*	*250*	*200*	*30*
% Column Total	*4.1*	*9.3*	*5.1*	*3.3*	*3.4*	*4.3*	*2.2*	*6.3*	*3.4*
% outside Ontario	*62.4*	*77.8*	*51.7*	*79.5*	*62.2*	*79.1*	*59.5*	*69.0*	*100.0*
Not Employed									
Number	28,380	580	8,940	6,990	2,670	3,060	4,830	970	340
% Column Total	38.4	38.7	37.8	37.8	39.2	39.0	41.9	30.4	39.1
Total									
Number	73,890	1,500	23,640	18,510	6,810	7,850	11,520	3,190	870
% Row Dist'n	100.0	2.0	32.0	25.1	9.2	10.6	15.6	4.3	1.2

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